



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,480	06/27/2001	Zhimin He	STL9799	5930

7590

01/15/2004

Derek J. Berger  
Seagate Technology LLC  
Intellectual Property - COL2LGL  
389 Disc Drive  
Longmont, CO 80503

EXAMINER
----------

CASTRO, ANGEL A

ART UNIT	PAPER NUMBER
----------	--------------

2653

DATE MAILED: 01/15/2004

13

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES PATENT AND TRADEMARK OFFICE

---

COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
P.O. Box 1450  
ALEXANDRIA, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

**MAILED**

**JAN 15 2004**

**Technology Center 2000**

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 13

Application Number: 09/894,480

Filing Date: June 27, 2001

Appellant(s): HE ET AL.

---

Derek J. Berger  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 11/04/03.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

No amendment after final has been filed.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

Appellant's brief includes a statement that claims 1-15, 17, 19-20 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

**(8) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

6,205,005	Heath	3-2001
6,404,727	Rao	6-2002
4,478,532	Puro	10-1984
5,267,110	Ottesen et al.	11-1993
6,424,503	Chin et al.	7-2002

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 3, 5-6, 8, 10, 12-13, 15, 17, 19-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Heath (U.S. Pat. 6,205,005).

Regarding claims 1 and 8, Heath shows a disc drive (figures 1-6, 17-18) comprising:

a housing 1 having a first component;

an actuator 9 having a cavity 33; and

a pivot 30 comprising:

a first member 31 positioned within the cavity and coupled to the actuator, the first member having at least one external surface;

a second member 4 mounted to the first housing component; and

at least two leaves 7, 21, each leaf joining one of the external surfaces to the second member, wherein the leaves are transversely disposed at an angle to one another such that the actuator is pivotable with respect to the housing about an axis.

Regarding claim 15, Heath shows a disc drive (figure 17) comprising a base 1; an actuator 9 configured for rotation relative to the base about an axis of rotation; and means 30 (figure 18) for pivotably coupling the actuator to the base.

Regarding claims 3 and 10, Heath shows that the cavity further comprises a first recess (a hole in the actuator arm 9 to accept screw 39) shaped to locate the first member.

Regarding claims 5, 12 and 17, it is inherent in the reference that the center of rotation generally coincides with the center of mass of the actuator.

Regarding claims 6 and 13, Heath shows that each of the external surfaces is inclined towards the center of rotation (see figure 2).

Regarding claim 19, Heath shows that the coupling means comprises a mounting element 4 fixed to the base (see figure 17).

Regarding claim 20, Heath shows that the coupling means comprises a mounting element 31 fixed to the actuator within the cavity (see figure 17).

Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heath in view of Rao and further in view of Puro (U.S. Pat. 4,478,532).

Regarding claims 4 and 11, Heath discloses the pivot described above. Heath does not specifically disclose a pair of washers secured to each one of the leaves, the washers of each pair being spaced apart by substantially a same distance. Rao discloses a pivot comprising a pair of screws secured to each one of the leaves, the screws of each pair being spaced apart by substantially a same distance (see figure 3e, and column 6, lines 17-22). Puro shows the desirability of using washers with screws (washer 48 in figure 3). It would have been obvious

to one of ordinary skill in the art at the time the invention was made to provide the pivot of Heath with the screws and washers as taught by Rao and Puro.

One of ordinary skill in the art would have been motivated to the pivot of Heath with the screws and washers as taught by Rao and Puro as doing this would provide a snug and secure fit between the screw and the leaves.

Claims 5-6 and 12-13, 17 are alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Heath as applied to claims 5-6 and 12-13 above, in view of Ottesen et al (U.S. Pat. 5,267,110).

Assuming *arguendo*, that Heath did not disclose that the center of rotation of the pivot coincides with the center of mass of the actuator, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the disc drive of Heath with the center of rotation of the pivot coincident with the center of mass of the actuator in view of the teaching of Ottesen et al. Ottensen et al discloses an actuator with a pivot having the center of rotation coincident with the center of mass with the purpose of reducing track misregistration errors. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the actuator of Heath having the center of rotation coincident with the center of mass of the actuator in view of the teaching of Ottesen et al.

One of ordinary skill in the art would have been motivated to provide the actuator and pivot of Heath having the center of rotation coincident with the center of mass as doing this would reduce track misregistration errors.

Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heath in view of Chin et al.

Regarding claims 7 and 14, Heath does not specifically disclose that the housing comprise a second component, the second member being coupled to the second housing component. Chin et al shows a bearingless pivot cartridge where the housing includes a second component 13 (figure 3) where the pivot is coupled. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the actuator of Heath with a second housing component as taught by Chin et al.

The rationale is as follows: One of ordinary skill in the art would have been motivated to provide the actuator of Heath with a second housing component as taught by Chin et al as doing this would allow assembling the actuator and pivot separately and incorporating into the disk drive thus saving time and avoid bending the actuator.

**(11) *Response to Argument***

Appellant asserts in pages 3-4:

"Independent claim 1 recites, among other limitations, "at least two leaves . . . transversely disposed at an angle to one another." The final Office action states on page 3 that Heath's elements 7, 21 are transversely disposed to one another. However, the broadest interpretation of the term "transverse" requires that the elements cross one another. See, e.g., The American Heritage College Dictionary 1438 (3d ed. 1993) ("Situated or lying across; crosswise"). Heath's elements 7, 21 clearly do not cross one another. For at least this reason, it should be clear that claim 1 is not anticipated by Heath; as such, reversal of the rejection as to claim 1 is respectfully requested."

The examiner respectfully points out that transversely positioned leaves 7 and 21, as shown in figures 2 and 18, mechanically couples the pivot members in Heath. Since the leaves of the pivot are not disposed in parallel, they must be transversely disposed at an angle to one another.

Art Unit: 2653

Appellant asserts in page 4, third paragraph:

“Regarding claim 5, the Examiner states that it is "inherent" that Heath's pivot axis and actuator center of mass are coincident. The Office continues to demonstrate a clear misunderstanding of inherency. The Examiner seems to be suggesting that this feature is desirable and thus should be inherent. While the feature is in fact desirable, as described in the present specification, it certainly cannot be described as "inherent" and reversal of the rejection of claim 5 is respectfully requested.”

The examiner respectfully refers to column 6, lines 38-50 of Heath to support the inherency of the claimed feature in the reference.

Appellant asserts in page 5, first paragraph:

“Claim 15 recites "means for pivotably coupling the actuator to the base." This claim thus invokes 35 U.S.C. § 112, sixth paragraph. Whatever the result may have been under prior PTO practice, the PTO must construe functional limitations in accordance with the corresponding structure disclosed in the specification when examining patents. In re Donaldson, 29 U.S.P.Q.2d 1845 (Fed. Cir. 1994) (en banc). Appellant's corresponding structure at the least includes first and second flexible leaves transversely disposed with respect to one another within the actuator cavity. For reasons set forth above with respect to the rejection of claim 1, it should be clear that Heath does not disclose this feature.”

The examiner maintains that the pivot of Heath is a structural equivalent to that of the instant specification. Specifically, The United States Patent and Trademark Office has issued guidelines for the examination of claims written in means-plus-function form. See *Supplemental Examination Guidelines for Determining the Applicability of 35 U.S.C. 112*, P6, 65 FR 38510, Federal Register Vol. 65, No. 120, June 21, 2000, herein after referred to as the "Guidelines." Part III of these Guidelines set forth requirements for establishing a *prima facie* case of equivalence by the Examiner. These involve whether or not the prior art element



Art Unit: 2653

performs the same function, whether the prior art element is excluded by an explicit definition in the specification for equivalents, and whether the prior art element is in fact an equivalent of the means-plus-function limitation in the claim. In the instant case, 1) the prior art reference to Heath performs the function specified in the claim (i.e. pivotably coupling the actuator to the base); 2) the pivot of Heath is not excluded by any explicit definition provided in the instant specification for an equivalent; and 3) the actuator of Heath is an equivalent of the means set forth in claim 15 in that the prior art to Heath performs the identical function specified in the claim (pivotably coupling the actuator to the base) in substantially the same way (by providing leaves that are transversely disposed) while producing the same results (pivoting the actuator about an axis). Therefore, the rejection is seen as proper.

Applicant asserts in pages 5-6:

Claims 4 and 11 were rejected as being obvious over Heath in view of U.S.

Patent 6,404,727 to Rao (hereinafter "Rao") and U.S. Patent 4,478,532 to Puro

(hereinafter "Puro").

"Claims 4 and 11 are allowable by virtue of their dependence from claims 1 and 8, which are allowable for reasons set forth above. However, these claims are allowable for additional reasons.

Claims 4 and 8 recite "washers secured to each of the leaves." As acknowledged by the Office on page 4 of the final rejection, Heath does not disclose a pair of washers secured to each leaf. The Office goes on to suggest that Rao discloses screws, and Puro discloses that washers are useful with screws, so it would have been obvious to apply both references to modify Heath to "provide a snug and secure fit between the screw and the leaves." But Heath does not disclose screws. In a breathtaking display of hindsight reasoning, the Office has applied Rao to Heath for the sole purpose of creating a "rationale" for taking the washers from Puro and attaching them to Heath's device. Even the most cursory examination of Heath reveals that spring 21 is held in place by a compression force upon protrusions 22 and 23. To apply screws and washers to this element would destroy Heath's device. In view of the unsuitability of the

Art Unit: 2653

Office's proposed modification as well as the excessive hindsight necessary to produce it, this rejection simply cannot be maintained."

In response to Appellant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. The examiner respectfully points out that Heath discloses several methods to attach the leaves (column 7, lines 64-67 and column 8, 1-32) and the motivation to use a washer is that it would provide a snug and secure fit between the screw and the leaves as taught by Rao and Puro.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

*A. C.*

Angel Castro, Ph.D.

January 12, 2004

Conferees

William R. Korzuch (SPE A.U. 2653)

Allen J. Heinz (Primary Examiner) *AJH*

Derek J. Berger  
Seagate Technology LLC  
Intellectual Property - COL2LGL  
389 Disc Drive  
Longmont, CO 80503

*William Korzuch*  
WILLIAM KORZUCH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600